In The Claims:

1. (Amended) A drop filter comprising:

a holographic filter [material];

a quasi phase-conjugate optical system comprising a lens and a mirror and optically coupled to said holographic filter;

an input optical fiber collimator;

a drop optical fiber collimator;

a through optical fiber collimator; and

a free-space circulator [placed] optically coupled to [between] said input optical fiber collimator, said drop optical fiber collimater, and said holographic [material of said drop] filter.

2. (Amended) The drop filter of claim 1 wherein said holographic filter material [of said drop filter of claim 1] is tunable.

3. (Amended) The drop filter of claim 1 wherein said holographic filter material [of said drop filter of claim 1] can rotate.

4. Canceled.

5. (Amended) The drop filter of claim 1 wherein said fiber optic source [of claim 1] is fed with a plurality of wavelength division multiplexed channels of light.

6. (Amended) The drop filter of claim 1 wherein said [Said] light from said plurality of wavelength division multiplexed channels [of claim 5] further comprises:

collimating said light;

passing said light through said holographic filter material; and

diffracting only one of said wavelength division multiplexed channels.

7. Canceled.

8. (Amended) The drop filter of claim 1 wherein focal length of said lens [of claim 7] generates a quasi phase-conjugate diffracted beam of light.

9. (Amended) The drop filter of claim 8 wherein said [Said] diffracted beam of light [of claim 8] is reflected back into said optical fiber collimator via said holographic filter material.

10. (amended) The drop filter of claim 1 wherein focal length of said lens [of claim 7] causes said diffracted beam of light to retrace its path towards said holographic filter material regardless of the orientation of said diffracted beam and said holographic filter material.

11. (Amended) The drop filter of claim 10 wherein said [Said] diffracted beam of light [of claim 10] is Bragg matched to said holographic filter material.

12. (Amended) The drop filter of claim 11 wherein said [Said] Bragg matching [of claim 11] forces said diffracted beam of light to follow a path identical to the original incident beam of light from said optical fiber collimator.

13. (Amended) The drop filter of claim 12 wherein said diffracted beam of light [of claim 12] is in an opposite direction as the original incident beam of light from said optical fiber collimator.

14. (Amended) The drop filter of claim 1 wherein said free-space circulator [of claim 1] directs said diffracted beam of light to an optical fiber collimator.

15. Canceled.

16. (New) A filter system comprising:

a first fiber optic collimator;

a free space circulator coupled to said first fiber optic collimator;

a first mirror coupled to said free space circulator;

a holographic drop filter coupled to said first mirror to diffract at least one of a plurality of WDM channels to an optical system,

said optical system coupled to said holographic drop filter to redirect said at least one of said plurality of WDM channels back into said holographic drop filter;

a drop fiber optic collimator coupled to said free space circulator that collects said at least one of plurality of WDM channels redirected into said holographic drop filter by said optical system.

17. (New) The filter system of claim 16 wherein said holographic drop filter is tunable.

18. (New) The filter system of claim 17 wherein said filter system is tuned by rotating said holographic drop filter such that its effective period length is altered.

19. (New) The filter system of claim 16 wherein diffraction of said at least one of said plurality of WDM channels to said optical system depends on an orientation of said holographic drop filter.

20. (New) The filter system of claim 16 wherein said holographic drop filter has a refractive index that can be altered by an external electric field.

21. (New) The filter system of claim 20 wherein said refractive index is between 1.35 and 1.45.

22. (New) The filter system of claim 16 wherein said holographic drop filter is made from a photorefractive crystal.

23. (New) A filter system comprising:

a first fiber optic collimator;

a free space circulator coupled to said first fiber optic collimator;

a first mirror coupled to said free space circulator;

a holographic drop filter coupled to said first mirror to diffract at least one of a plurality of WDM channels to an optical system and pass through a remainder of said plurality of WDM channels;

said optical system further comprising a lens and a second mirror coupled to each other;

said optical system coupled to said holographic drop filter redirects said at least one of said plurality of WDM channels back into said holographic drop filter;

a second fiber optic collimator coupled to said holographic drop filter that collects said remainder of said plurality of WDM channels that pass through said holographic drop filter; and

a third fiber optic collimator coupled to said free space circulator that collects said one of plurality of WDM channels redirected into said holographic drop filter by said optical system.

24. (New) The filter system of claim 23 wherein said holographic drop filter is tunable.

25. (New) The filter system of claim 24 wherein said filter system is tuned by rotating said holographic drop filter such that its effective period length is altered.

26. (New) The filter system of claim 23 wherein diffraction of said at least one of said plurality of WDM channels to said optical system depends on said holographic drop filter's orientation.

27. (New) The filter system of claim 26 wherein said second mirror is positioned at a focal length of said lens such that said quasi phase-conjugate diffracted channel is in a direction opposite to said one of plurality of WDM channels diffracted to said optical system.

28. (New) The filter system of claim 26 wherein said holographic drop filter has a refractive index that can be altered by an external electric field.

29. (New) The filter system of claim 28 wherein said refractive index is between 1.35 and 1.45.

30. (New) The filter system of claim 26 wherein said holographic drop filter is made from a photorefractive crystal.

31. (New) A method to tune a filter comprising the steps of:
collimating a plurality of WDM channels by a first fiber optic collimator;

coupling a free space circulator to said first fiber optic collimator;

coupling a first mirror to said free space circulator;

diffracting to an optical system coupled to said holographic drop filter one of said plurality of WDM channels by a holographic drop filter coupled to said first mirror;

passing through said holographic drop filter rest of said plurality of WDM channels;

redirecting one of plurality of WDM channels back into said holographic drop filter by said optical system;

coupling a second fiber optic collimator to said holographic drop filter to collect rest of said plurality of WDM channels that pass through said holographic drop filter; and

coupling a third fiber optic collimator to said free space circulator to collect said one of plurality of WDM channels redirected into said holographic drop filter by said optical system.

32. (New) The method of claim 31 further comprising tuning of said holographic drop filter.

33. (New) The method of claim 31 wherein tuning of said filter system is done by rotating said holographic drop filter such that its effective period length is altered.

34. (New) The method of claim 31 wherein diffracting to said optical system one of said plurality of WDM channels depends on said holographic drop filter's orientation.